

Administrative Order



Administrative Order No.: 3-26

Title: Establishing the Threshold and Guidelines for Feasibility and Value Analysis/Engineering VA/E Studies for Miami-Dade County Construction Projects

Ordered: 7/25/2000

Effective: 8/4/2000

AUTHORITY:

Section 4.02 of the Miami-Dade County Home Rule Amendment and Charter; Section 2.10-4 of the Code of Miami-Dade County; and Ordinance 97-172.

SUPERSEDES:

This Administrative Order supersedes Administrative Order 3-26, ordered October 5, 1999 and effective October 15, 1999.

SCOPE:

This Administrative Order establishes the threshold and guidelines for conducting feasibility studies and performing VA/E studies on Miami-Dade County construction projects.

POLICY:

In developing County facilities and infrastructure, there are usually several design concepts, routing options, equipment and process alternatives from which a preferred concept is selected and advanced. Comparison of alternatives based on detailed feasibility and cost benefit analyses provides a superior method of selecting the best concept for developing County facilities. Formal feasibility studies will be performed for all viable development/design alternatives as described herein for capital projects with construction costs estimated to be Five Million Dollars (\$5,000,000) or more.

Architects/Engineers retained to design facilities for Miami-Dade County usually depend upon their experience to incorporate systems, products, and services into the County's projects to provide the necessary function reliability at the lowest overall cost. Formal VA/E procedures will be performed as described herein on capital projects whose construction cost is estimated to be Five Million Dollars (\$5,000,000) or more. Additionally, a value analysis report shall be made for all projects with construction costs estimated to be One Million Dollars (\$1,000,000) or greater. VA/E studies are to be performed by an entity other than the project Architect/Engineer.

EXCEPTION:

For projects whose with construction cost estimate is below the Five Million Dollar (\$5,000,000) threshold, neither a formal VA/E study nor feasibility study of alternative concepts is mandated. Principles and objectives of value engineering will be utilized for such projects in an informal manner and as determined by each department director and the professional staff within the department. Departments must, however, file a VA/E report for all projects with an estimated construction cost of One Million Dollars (\$1,000,000) or more.

DEFINITIONS:

Development/design alternatives define the various concepts and development options initially considered for addressing County infrastructure development and facilities expansion needs. These considerations normally occur at the initial stages of project planning. A properly executed program/project selection procedure evaluates and compares each viable alternative for its advantages and disadvantages in meeting County needs before a final concept is chosen.

Value Analysis/Engineering is defined as the systematic application of recognized techniques which identify the function(s) of a product or service, establish a monetary value for the function(s), and provide the necessary function(s) reliably at the lowest overall cost. The terms Value Engineering and Value Analysis are considered to be synonymous. Value Analysis/Engineering is a discipline which applies teamwork and a systematic analysis of function(s) to remove unnecessary costs from products and services. Properly executed, VA/E will maintain all the required characteristics of performance, safety, reliability, interchangeability and user acceptance and provide them at least cost.

QUALIFICATIONS:

The entity or person(s) conducting feasibility studies shall have the education, professional certification and experience necessary to fulfill these duties.

The entity retained for VA/E shall be qualified in performing VA/E studies, as outlined in the American Society for Testing Materials E 1699-95 "Standard Practice for Performing Value Analysis of Building and Building Systems" and the "Value Methodology Standard" of SAVE International (Society for Advancement of Value Engineering), and shall hold "Professional Services Certification" for "Value Analysis and Life Cycle Costing" category issued by the Miami-Dade County Public Works Department. The Value Analysis team leader preferably should be a Certified Value Specialist, an Associated Value Specialist or a Value Methodology Practitioner, as certified by SAVE. The VA/E study, as mandated by this Administrative Order, will be performed by an entity other than the project Architect/Engineer. Members of the project Architect/Engineer (A/E) team will assist, on an as needed basis, in the VA/E process. The VA/E consultants, when utilized, should be retained through a direct Professional Services Agreement between the consultant(s) and the County. In those instances where VA/E consultants are not readily available through existing agreements with the County, VA/E consultants may be retained through other miscellaneous

professional consultant agreements.

PROCEDURES:

Feasibility Study

During the early planning stages and before a final design concept is selected, a feasibility study will be conducted for each design concept or development model considered to be a plausible alternative to meeting County needs. The Architect/Engineer/Planner systematically assesses the performance, planned outcomes and impacts of alternative plans, routing, development and designs prior to selecting a final concept or developing detailed designs. The team conducting the study will be composed of representatives from all applicable disciplines and estimators, as determined by the Project Manager, based on scope, complexity, and size of the project. Conceptually feasibility studies will consist of the following steps:

1. At the initial stages of infrastructure and facilities planning the department will identify the broad design/development scope, goals, objectives and statutory requirements. The Architect/Engineer/Planner will maintain records of the history, need, planning methodology, timing and issues relevant to the project.
2. The department will appoint a team or individual to conduct feasibility studies. The team or individual will have appropriate education, professional certification, experience and skills necessary to analyze project and make recommendations.
3. The Architect/Engineer/Planner and/or the feasibility study team will develop selection criteria for ranking project options.
4. The next stage is to consider approaches to solving the problems and addressing the issues identified in step 1. The Architect/Engineer/Planner will maintain records of all proposed alternatives (normally obtained through procurement processes).
5. The next phase requires gathering information on the proposed alternatives, completing functional analysis of the preliminary design concepts and developing cost estimates. Each proposed concept will provide estimates for life cycle costs, operational impacts, resource requirements, timing, and environmental impacts. The study team will concentrate on analyzing proposed solutions, listing costs, impacts, advantages and disadvantages associated with each option. Alternatives will be supported by sketches, notes and applicable cost estimates.

Proposed alternates are subjected to analytical evaluation with respect to initial versus long-term operational and maintenance costs, construction costs, timing, public safety, the environment, aesthetics, functionality, statutory and regulatory requirements.

6. The study team will develop benefit cost analyses, rank each option, prepare a final written report and present its findings and recommendations to the department's review committee. The Review Committee (consisting of the department's staff from facilities, maintenance, and user groups) votes to accept the best alternative. If the project Architect/Engineer/Planner has objections to any of the proposed alternatives, they will express their concerns in discussions with the feasibility study team for resolution during this process.

7. The study team will then prepare the final report that will include the proposed alternatives, the selection criteria and the option accepted by the review committee. The team will provide copies of the report to the Project Manager and the project Architect/Engineer/Planner. The department will proceed with facilities improvements or infrastructure development based on the accepted option.

Value Analysis/Engineering

A VA/E study will be conducted at the completion of the Design Development Phase or other appropriate stage of the project, as determined by the department, that will allow the project Architect/Engineer to consider alternative design concepts prior to the start of construction documents. A VA/E team will be composed of representatives of all applicable disciplines and estimators as determined by the Project Manager, based on scope, complexity, and size of the project. Length of the VA/E workshop will be a function of the specific project to be evaluated based upon the size, complexity and scope of work for the applicable project. The VA/E process will conceptually consist of the following steps:

1. At the start of the VA/E study, the project Architect/Engineer will make a presentation to the VA/E team about the project, narrating the project history, need, planning, methodology, timing and input procedures.
2. The next phase is information gathering, functional analysis of the design documents and cost estimate development. The VA/E team will concentrate its efforts on the identification of high cost, time constraints, or other challenges in the project.
3. The creative phase of the VA/E process follows during which the VA/E team takes a "second look" at the documents and identifies alternate systems, products, or construction methods that could perform the required operation with improved functionality, lower initial costs and/or operational costs, or both. During this phase, ideas are created without any consideration for judgment or modification impacts.
4. Proposed alternates are subjected to analytical evaluation for initial versus long-term operational and maintenance costs. The final list of suggested alternatives includes the development of these proposed alternatives supported by sketches and applicable cost estimates.
5. The VA/E team will make a final presentation of its findings and recommendations to the A/E team and the VA/E Review Committee. The VA/E Review Committee should consist of the department's staff from facilities, maintenance, and user groups. This presentation will include a written report for each value analysis alternative with the following data: the identified item, cost as designed, cost of alternate design, initial cost savings, life cycle cost savings, advantages, disadvantages, redesign requirements and discussion on the item considered. The VA/E Review Committee members will vote to accept, reject or suggest modifications to the proposed alternatives. The committee may reject recommendations for valid reasons including recommendations that:
 - Ignore or delete essential elements of project scope or are inconsistent with operational needs
 - Advocate use of lower quality systems and materials
 - Significantly impact project schedule

- Require excessive reviews and subsequent design modifications
- Be inconsistent with design policies or design criteria
- Provide only qualitative descriptions of the recommendation without quantifying savings
- Actually recommend additional capital expenditures
- Conflict with regulatory standards which may limit design flexibility on some aviation and other public safety projects

Additionally, the department will set guidelines to establish conditions under which recommendations are unacceptable including:

- Reject a recommendation if the department is already formally considering or previously approved the same revisions for the contract
- Reject a procedure or any equipment that in the County's operating experience is inadequate
- Accept proposals that use only proven features and have successfully performed under similar conditions
- Consider only recommendations that generate "sufficient" savings
- Reject recommendations that simply provide equivalent options to those already in the contract

If the project Architect/Engineer has objections to any of the proposed alternatives, they will express their concerns in a discussion with the VA/E team for resolution during this process.

Departments may customize the general administrative guidelines to meet conditions unique to their construction environment.

1. The VA/E team will then prepare the final report which will include the recommended VA/E alternatives and the accepted alternatives, and will provide copies to the Project Manager or designee and the project Architect/Engineer. The accepted recommendations will be implemented by the project Architect/Engineer.
2. Each department is required to submit a semi-annual report on value analysis/engineering for all projects whose construction costs is estimated to be One Million Dollars (\$1,000,000) or more. The report to the County Manager or designee will detail projects that have been value studied, projects that the not been studied and shy, what value engineering proposals were made, approved, rejected, implemented, not implemented, and why.

Although Miami-Dade County utilizes the standard design-bid-build process for the majority of its construction procurement, alternate processes such as design-build, design-build-operate, construction management with guaranteed maximum price, etc. are also used when deemed in the best interest of the County. The VA/E procedures described herein are most appropriate for the design-bid-build process. When an alternate process is used for project development, County staff responsible for project management will utilize its professional

judgment to implement a variation of these procedures to suit the development process.

This Administrative Order is hereby submitted to the Board of County Commissioners of Miami-Dade County, Florida.

M. R. Stierheim
County Manager
